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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re application of: Dan Duroj

Serial No.: 10/000,387

: Examiner: N/A

Filed: November 30, 2001

: Group Art Unit: 2185

For: VIRTUAL HARD DISC

Honorable Assistant Commissioner
for Patents
Washington D.C. 20231

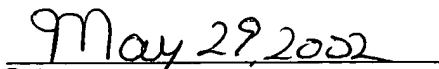
LETTER TRANSMITTING CERTIFIED COPY OF PRIORITY DOCUMENT

Sir:

This is a letter enclosing a certified copy of the priority document, Swedish patent application number 0004476-8 filed December 5, 2000.¹

¹ I hereby certify that this correspondence is being deposited today with the United States Postal Service as first class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231

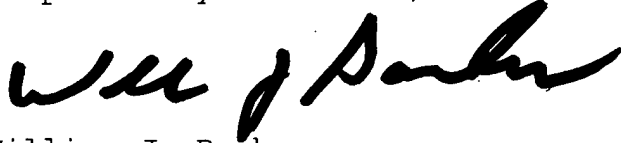

Debra A. Pongettz


Date

Serial No.: 10/000,387

We thank you in advance for your kind attention to this matter, and ask that you contact us if you have any questions.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "W J Barber", written in a cursive style.

William J. Barber
Attorney for the Applicant

/dap
Enclosure

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This is to certify that the annexed is a true copy of the documents as originally filed with the Patent- and Registration Office in connection with the following patent application.

(71) Sökande Creative Media Design at Integrated Systems
Applicant (s) Scandinavia Group AB, Bromma SE

(21) Patentansökningsnummer 0004476-8
Patent application number

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Stockholm, 2001-12-07

För Patent- och registreringsverket
For the Patent- and Registration Office

Christina Vängborg
Christina Vängborg

Avgift
Fee 170:-

Technical field

The present invention pertains to a handheld portable crash secure virtual hard disc accessed through a card or disc with software storage capability, and a system therefore.

Background art

5 Computer hard discs are sensitive for crashing, and not being suitable to be handheld and for example stored in a pocket or wallet. A small hard disc to be carried by a person and used on any computer or computer terminal with comparable or transparent software would be appreciated by most computer users. Such a hard disc does not exist on today market for computer hardware or software.

10 There is portable hard disc equipment, but those are limited to be used on computers especially designed for such discs, for example, bernouille discs. There also exists PCMCIA memory cards which are small sized and fairly portable, but they can only be used on computers with slots for such cards.

A problem with today portable discs is that they are easily damaged, and when so it is probable that all information stored on them is lost, which of course is a disaster for a user.

15 Another problem consists of that known portable discs such as above can easily be stolen or lost.

Ordinary Compact Discs (CDs) used for carrying data from one computer to another are also easily lost or stolen.

20 Summary of the disclosed invention

The present invention aims to solve problems related to hard discs of today design and use regarding features as being easily damaged, stolen, lost, crashed, handheld etc.

25 In order to solve problems according to the above mentioned the present invention sets forth a handheld portable card or disc with an interface to a crash secure virtual hard disc accessed through said card or disc with software storage capability. Hereby it comprises:

- a connection to one hard coded address domain server in a network for data and telecommunication;
- said domain server providing a plurality of virtual hard disc spaces;
- file transfer protocol for copying files between card or disc and a space in said virtual
- 30 hard disc or vice versa;
- a graphical software representation of files in said virtual hard disc on said card or disc; and

thereby providing said card having only one access path to said one domain server, thus providing a stationary user unchangeable portable hard disc, being crash secure, for example, through server backups.

In one embodiment of the invention it is accomplished that a useridentity and a password entered through said card or disc provides access to one of said plurality of hard disc spaces.

Another embodiment provides that drag and drop is used for adding files to said card or disc graphics.

In a further embodiment said card or disc provides that it can run on any computer or terminal with transparent software.

A still further embodiment provides that the space is made available to a user through drop and drag an icon/graphics onto the card or disc as a useridentity and password, whereby the icon/graphics pixels are matched to stored pixels on the card or disc for the graphic shown in the icon.

Further the present invention sets forth a system comprising an handheld portable card or disc with an interface to a crash secure virtual hard disc accessed through said card or disc with software storage capability. The system comprises:

a hard coded address domain server in a network for data and telecommunication;
a plurality of virtual hard disc spaces in said server;
a file transfer protocol for copying files between card or disc and a space in said virtual hard disc or vice versa;

a graphical software representation of files in said virtual hard disc on said card or disc:

a temporary memory space in a computer or terminal running the card or disc for processing said files; and

thereby providing said card or disc having only one access path to said one domain server, and thus comprising stationary user unchangeable portable hard discs, being crash secure, for example, through server backups.

One embodiment of the system provides that a useridentity and a password entered through said card or disc provides access to one of said plurality of hard disc spaces.

Another embodiment of the system provides that drag and drop is used for adding files to said card or disc graphics.

A further embodiment of the system provides that said card or disc is run on any computer or terminal with transparent software.

In a still further embodiment, the space is made available to a user through drop and drag an icon/graphics onto the card or disc as a useridentity and password, whereby the icon/graphics pixels are matched to stored pixels on the card or disc for the graphic shown in the icon.

5

Brief description of the drawings

Henceforth reference is had to the accompanying drawings in conjunction with the description for a better understanding of the embodiments and examples described herein, whereby:

Fig. 1 illustrates a window comprising files on a card in accordance with the present invention; and

Fig. 2 illustrates a system with a virtual hard discs according to the present invention.

Detailed description of preferred embodiments

The present invention provides a crash secure virtual hard disc. Thereby it provides an interface on a card or disc with software storage capabilities such as smart cards, CD-cards (size of credit cards or smaller), SIM cards for cellular communication, conventional CD discs could also be used but credit card sized are preferred. These cards are easily carried in a pocket or wallet.

Cards used in accordance with the present invention are hard coded with only one domain server address. This means that the card can be used only against a pre-selected server, i.e., a user cant store files anywhere else. Thus if a card is lost, stolen, damaged etc. a new card is easily bought in a closest shop or net-store and a connection to the same server can be maintained due to the hard coded one server address. A user has to enter his useridentity and password or PIN-codes. Hence, the card is personalized to the user, and a stolen card is invalid without knowing the identities for a connection to the domain server. It is crash secure in the sense of that there are advanced routines for backup at server sites.

The virtual hard disc in accordance with the present invention is accomplished by allowing every card user to have a memory space in the domain server connected to a card. The space is made available to a user by the useridentity and password or other like entering codes. This provides an unique storage area for a users software files, i.e., a virtual hard disc.

In one embodiment of the present invention the space is made available to a user through drop and drag an icon/graphics onto the card as a useridentity and password. Thereby, the icon pixels are matched/compared to stored pixels on the card for the graphic shown in the icon. If the pixels that make up the drop and drag icon match the stored pixels for the graphics an access to the hard disk of the present invention is allowed. The pixels can be matched to

allow access if a predetermined threshold for the match is reached. This approach could be favorable for kids as an access to a virtual hard disk.

Hence, with a card in accordance to the present invention a user can always connect to his/her hard disc where ever they are by using a computer or terminal with a connected card slot or CD player. Conventional CD players are equipped with a mini CD area of
5 approximately 8 cm diameter.

Attached Fig. 1 illustrates a window 10 on a card comprising files in accordance with the present invention. The window is automatically visible on a computer screen when the card has been activated on a computer or terminal, and a user has instant access to his/her
10 virtual hard disc space. A user can thus manipulate files in a temporary memory area connected to the computer or terminal in use. When having updated a file it can be stored in the virtual hard disc memory space belonging to the user or owner of the card.

Files are in one embodiment of the invention saved in the window through drop and drag, which is illustrated through icons 12 in the window of Fig. 1.

Communication between the card and the virtual hard disc of the present invention is accomplished through a File Transfer Protocol (FTP). FTP is a standard application for transfer of files between computers attached to Transmission Control Protocol/Internet (TCP/IP) networks, comprising the Internet, and a client/server application, such that a user runs a program on one computer system, the client, which communicates with a program
15 running on another computer system, the server. FTP was approved as a memorandum by the Internet Architecture Board of the Internet Society.

Fig. 2 illustrates a system 20 with a virtual hard discs according to the present invention. The system 20 comprises a handheld portable card 22 interface to a crash secure virtual hard disc 24 accessed through the card 22 with software storage capability. In a
25 preferred embodiment the system 20 comprises a hard coded address domain server in a network for data and telecommunication, such as Internet, Intranet or the like. By hard coded is meant that it follows the card 22 connected to the server 26.

A virtual hard disc is accomplished by dividing/partitioning server memory space into a plurality of virtual hard disc 24 spaces in a server 26. FTP is used as a file transfer protocol for copying files between card and a space in the virtual hard disc 24 or vice versa.
30 Also the system 20 comprises that the card 22 has a graphical software representation, window, of files stored in the virtual hard disc. When activating an icon 12 FTP transfers the file linked to the icon to the computer 28 or terminal a user is working on at the time, and the file can be processed in a temporary memory space in the computer 28 or terminal. Hereby is

provided that the card 22 thus makes up a stationary user unchangeable portable hard disc 24, being crash secure through server 26 backup routines.

5 The system 20 virtual hard disc 24 is linked to a user or owner of the card by a useridentity and a password entered through the card 22 providing access to one specific hard disc 24 of the plurality of hard disc 24 memory spaces. The card provides that it can run on any computer 28 or terminal with transparent/comparable software.

It is appreciated that the present invention can provide multiple domain servers 26 each one connected with its own specific domain address, whereby each server provides multiple virtual hard disc 24 space.

10 To be able to log in to a virtual hard disk the present invention provides a handheld portable card 22 interface to a crash secure virtual hard disc accessed through said card with software storage capability. The card thus comprises a connection to one hard coded address domain server 26 in a network for data and telecommunication whereby the domain server 26 provides a plurality of virtual hard 24 disc spaces. Communication between the card 22 and
15 server 26 is accomplished through a file transfer protocol for copying files between card and a space in the virtual hard disc or vice versa. The card 22 comprises graphical software, e.g., a browser, contact center, IT-support, e-support/services, and representation of files, icons 12, stored in the virtual hard disc 24.

20 The present invention is not limited to examples and embodiments given in the present description. Its attached set of claims describe further embodiments to a person skilled in the art.

Claims

1. A handheld portable card or disc (22) with an interface to a crash secure virtual
5 hard disc (24) accessed through said card or disc (22) with software storage capability,
comprising:
a connection to one hard coded address domain server (26) in a network for data and
telecommunication;
said domain server (26) providing a plurality of virtual hard disc (24) spaces;
10 file transfer protocol for copying files between card or disc and a space in said virtual
hard disc (24) or vice versa;
a graphical (12) software representation of files in said virtual hard disc (24) on said
card or disc (22); and
thereby providing said card or disc (22) having only one access path to said one domain
15 server (26), thus providing a stationary user unchangeable portable hard disc interface, being
crash secure.
2. A virtual hard disc (24) interface according to claim 1, wherein a user identity and
a password entered through said card or disc (22) provides access to one of said plurality of
hard disc spaces.
- 20 3. A virtual hard disc (24) interface according to claim 1 or 2, wherein drag and drop
is used for adding files to said card or disc graphics.
4. A virtual hard disc (24) interface according to claims 1-3, wherein said card or
disc provides that it can run on any computer or terminal with transparent software.
5. A virtual hard disc (24) interface according to claim 2, wherein the space is made
25 available to a user through drop and drag an icon/graphics onto the card or disc as a
user identity and password, whereby the icon/graphics pixels are matched to stored pixels on
the card or disc for the graphic shown in the icon.
6. A System (20) comprising an handheld portable card or disc (22) with an interface
to a crash secure virtual hard disc (24) accessed through said card or disc (22) with software
30 storage capability, comprising:
a hard coded address domain server in a network for data and telecommunication;
a plurality of virtual hard disc (24) spaces in said server;
a file transfer protocol for copying files between card or disc (22) and a space in said
virtual hard disc (24) or vice versa;

a graphical (12) software representation of files in said virtual hard disc on said card or disc:

a temporary memory space in a computer (28) or terminal running the card or disc for processing said files; and

5 thereby providing said card or disc having only one access path to said one domain server, and thus comprising stationary user unchangeable portable hard disc (24) interfaces, being crash secure.

7. A system (20) comprising a virtual hard disc (24) according to claim 6, wherein a useridentity and a password entered through said card or disc (22) provides access to one of
10 said plurality of hard disc spaces.

8. A system (20) comprising a virtual hard disc according to claim 6 or 7, wherein drag and drop is used for adding files to said card or disc graphics (12).

9. A system (20) comprising a virtual hard disc (24) according to claims 6-8, wherein said card or disc provides that it can run on any computer (28) or terminal with transparent
15 software.

10. A system (20) comprising a virtual hard disk (24) according to claim 7, wherein the space is made available to a user through drop and drag an icon/graphics onto the card or disc as a useridentity and password, whereby the icon/graphics pixels are matched to stored pixels on the card or disc for the graphic shown in the icon.

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Abstract

The invention relates to a handheld portable card or disc (22) interface to a crash secure virtual hard disc (24) accessed through the card or disc with software storage capability, and a system (20) therefore. It virtually allows a user to log in on any computer (28) or terminal for retrieving own computer files from the hard disc (22) through the world wide web or Intranet and the like.

(Fig. 2)

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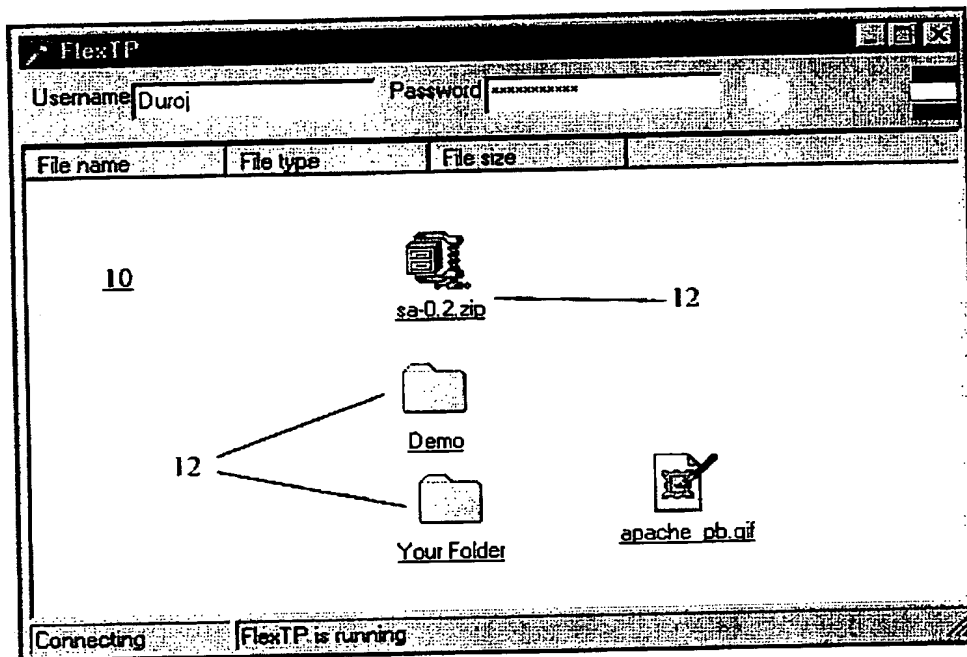


Fig 1

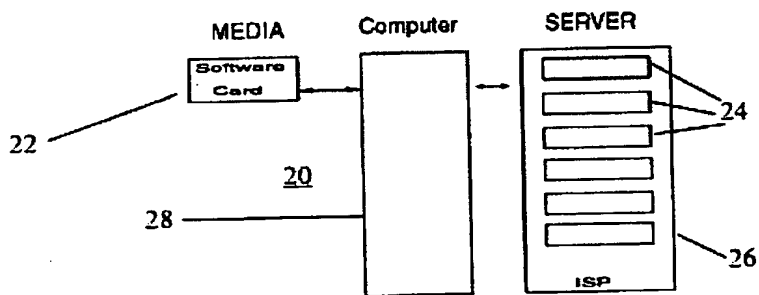


Fig 2